



PRACTICAL WORK N°1

Welcome to the world of GNU/Linux

⌚ Reminder !



☒ Terminology :

MULTICS (Multiplexed Information Computing System) ; UNICS (UNiplexed Information Computing System) ; UNIX
 GNU Hurd (Hird of Unix-Replacing Daemons) ; GNU (Gnu's Not Unix)
 FSF (Free Software Foundation) ; GPL (General Public License)
 UNIX-Based system ; UNIX-like system ; GNU/Linux ; Linux Distribution
 GRUB (Grand Unified Bootloader)
 GUI (Graphical-User Interface) ; CLI (Command-Line Interface)
 Shell ; CLI (Command-Line Interpreter) ; Terminal ; Command Prompt

☒ Kind of use OS : WSL (Windows Sub-system for Linux) ; Virtual Machine ; Dual-boot setup ; Live DVD ; clef USB live

⌚ Notes !



- ☒ To work on a Linux distribution, you need to have an account, so enter your username (login) and password.
 - Username: 1BTgXbY (X is your Group number and Y is your Partner/Machine number)
 - Password: NSCS-sZ (Z is your section number)
- ☒ At the end of the practical session, never leave your session open.

⌚ Objectives

- Discover and familiarize yourself with the **Linux environment**.
- Discover the **terminal** and the **shell** (CLI: Command-Line Interpreter) and make the first command executions:
 - ✓ What is a **command** ? **Command Prompt** ?
 - ✓ Learn the **type** of a command.
 - ✓ Learn **how to get help** with a command ?
- ...

PART 1: THEORETICAL PART / COURSE QUESTIONS

QCS / QCM: *Mark all the correct statements given below :*

Q1	Le shell est un remote desktop (Bureau à distance)			
	Le shell est un interpréteur de commandes			
	Aucune de ces affirmations n'est correcte			
Q2	Chaque ligne du terminal est de la forme : nom de la machine @ nom de l'utilisateur : ~ \$			
	nom de la machine @ nom de l'utilisateur: le nom de fichier \$			
	nom de l'utilisateur @ nom de la machine : répertoire courant \$			
	Aucune de ces réponses n'est correcte			
Q3	"help help" est une commande Linux ?			
	Oui	Non		
Q4	On doit laisser des espaces entre nom de la commande, les options et les paramètres			
	Les options sont toujours précédées par -			
	On ne peut pas utiliser plusieurs options en même temps			
	Les options et les paramètres sont toujours obligatoires (non facultative)			
	Aucune de ces affirmations n'est correcte			
Q5	Le terminal est un interpréteur de commandes			
	Le terminal est un programme utilisé pour exécuter de commandes			
	Le terminal est un programme			
	Le terminal est un shell			
	Aucune de ces affirmations n'est correcte			
Q6	Les commandes externes sont des programmes présents dans le système			
	Les commandes externes font partie du programme shell			
	Les commandes externes sont internes au shell			
	Les commandes internes sont internes au shell			
	Aucune de ces affirmations n'est correcte			
Q7	Pour savoir si la commande est interne ou externe au shell on utilise la commande			
	interne		file	
	externe		Aucune de ces réponses n'est correcte	
Q8	type			
	type type		type man	
Q9	type help		Aucune de ces commandes n'est correcte	
	La commande help est utilisée :			
	Pour avoir de l'aide sur les commandes externes			
	Pour avoir de l'aide sur les commandes internes			
Q10	Aucune de ces réponses n'est correcte			
	Sélectionner le résultat de l'exécution de la commande suivante : user1@PC:~\$ whoami			
	PC		user1	
	user		Aucune de ces résultats n'est correcte	
	srv			

PART 2: ACTIVITIES

 **ACTIVITY 1:** *First contact with the Linux environment*

You work on computer machines (PCs) that run on a Linux operating system (distributions: **Ubuntu**; **Kali Linux**; **ParrotOS**; etc.). Turn on your machine.

- Following the teacher's explanations, describe the type of connection used by your machine.

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- Have you ever worked with the Linux environment?
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3. What other operating systems have you worked with?

4. Notice the different information displayed on the screen.

5. Try to recognise the desktop environment.

6. Open a terminal and make a note of what you see.

7. Run an application.

8. You have the command prompt, make a note of it and explain its various elements.

ACTIVITY 2: First steps with the command prompt

1. Launch **the terminal**:

- **Run** the following commands
- Write down the results and **interpret** them globally
- Try to understand the **role** of the command globally
- Note the result displayed.
- Specify the type (internal or external to the shell) of the commands using the **type** command.

Command	Result	Type : Internal / external
echo		
date		
cd		
pwd		
passwd		
clear		
cal		
man		
help		
type		
uname		
history		
whoami		
hostname		
logname		
lscpu		

lshw		
lsusb		
lsof		
lspci		
lsmem		
free -h		
df -h		
ifconfig		
w		
!!		

2. Using the file '**Memento GNU Linux.pdf**', test and learn other commands.
 3. Log out using the command **exit**.
 4. You are asked to open a session again. How to proceed this ?
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⌚ ACTIVITY 3: Requesting Help

Command syntax: In general, a simple Linux command is written as :

COMMAND	[OPTIONS]	[ARGUMENTS]
Command-name	[options]	[parameters]

- ✓ **Options:** arguments not required to execute the command, but their use results in a particular execution;
- ✓ **Parameters:** arguments required to execute the command.
- ✓ The three fields are separated by spaces.

Requesting help: in Linux there are three ways of requesting help:

- ✓ Either by consulting the **manual pages** found in: **/usr/share/man; /usr/share/doc/ ...**
- ✓ Or by using **commands** that consult the manual pages quickly and efficiently, such as **man, whatis**, etc.
- ✓ Or by using the options : **-? ; --help**

Launch the **terminal** and run the following commands:

\$ help help	\$ info man
\$ man man	\$ info apropos
\$ Xman	\$ whatis apropos
\$ info info	

1. Try to understand the role of the command globally.
 2. What is the difference between **help, man, xman, info, apropos** and **whatis**?
-
-
-
-

⌚ ACTIVITY 4: Sessions

Every time you open a terminal it displays :

user_name@computer_name : ~\$

! So, what are the **sessions** ?

- ✓ Based on the execution of each command, explain what it does.
- ✓ Note down the results and write down what you have understood.

\$ `logname`

\$ `id`

What is the difference between:

\$ `whoami`

\$ `who am i`

And

\$ `who`

\$ `w`

And

\$ `logout`

\$ `exit`

Based on the use of the **man** command, give the role of these commands and an option for each one :

\$ `poweroff`
\$ `halt`
\$ `reboot`

\$ `shutdown`
\$ `init`

⌚ ACTIVITY 5 : Changing the password

You must log in to continue this lab, then you will change your password (think of a **password** that suits you, keep it, you are the only one responsible for the passwords during the whole semester).

1. Run the command **passwd**. This command allows you to change your password:

- ✓ Enter a new password (for security reasons, the system does not display letters, not even stars).
- ✓ Then confirm by retyping your new password.

2. Log out, the command used is: _____

3. Log in with the old password. Does it work? ----- Then with the new one, does it work? -----

4. Run the command **passwd** again, give the old password as the new password? it doesn't work! Why not? -----

5. Now that you're familiar with working with commands in the Linux environment, look for a **command to close your session** (you can use the following command: **killall systemd**).